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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/857,208	06/22/2001	Kanetaka Sekiguchi	010763	6186
38834	7590	03/09/2006	EXAMINER	
WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP 1250 CONNECTICUT AVENUE, NW SUITE 700 WASHINGTON, DC 20036			GOODWIN, JEANNE M	
			ART UNIT	PAPER NUMBER
			2841	

DATE MAILED: 03/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.		Applicant(s)	
	09/857,208		SEKIGUCHI ET AL.	
	Examiner		Art Unit	
	Jeanne-Marguerite Goodwin		2841	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 92-130 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 92-130 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 92, 93, 97, 98, 100, 101, 103, 106, 107 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 5,963,282 to Battersby.

As per claim 92: Battersby discloses a liquid crystal display device (10) comprising a liquid crystal display (20) including a transmission portion, a solar battery (25) facing at least a part of a surface opposite to a visual recognition side of said liquid crystal display panel (see Figs. 1 and 2) and absorbing a visible light to generate electric power (col. 2, lines 28-33), wherein light is applied to said solar battery through the transmission portion of said liquid crystal display panel to generate electric power, and a display by said liquid crystal display panel is performed using said solar battery as an absorbing plate (col. 5, lines 1-15).

As per claim 93: Battersby discloses a liquid crystal display device according to claim 92 comprising a film (col. 5, lines 42-51) having characteristics of transmitting light within a wavelength region matching with wavelength absorbed by a power generation portion of said solar battery is provided on the visual recognition side of said solar battery.

As per claim 97: Battersby discloses a liquid crystal display device according to claim 92 comprising a power generation quantity adjustment region for changing a transmittance is provided at a part of a display region of a liquid crystal display panel to adjust a quantity of power generation of the solar battery (col. 5, lines 5-10 and col. 6, lines 42-67).

As per claim 98: Battersby discloses a liquid crystal display device according to claim 93 comprising a power generation quantity adjustment region for changing a transmittance is provided at a part of a display region of a liquid crystal display panel to adjust a quantity of power generation of the solar battery (col. 5, lines 5-10 and col. 6, lines 42-67).

As per claim 100: Battersby discloses a liquid crystal display device according to claim 92 comprising a means for conducting a control to increase a transmittance of said liquid crystal display panel is provided to increase a quantity of power generation of said solar battery while said liquid crystal display panel is in non-driving display state (col. 6, lines 42-67, col. 7, lines 1-9).

As per claim 101: Battersby discloses a liquid crystal display device according to claim 93 comprising a means for conducting a control to increase a transmittance of said liquid crystal display panel is provided to increase a quantity of power generation of said solar battery while said liquid crystal display panel is in non-driving display state (col. 6, lines 42-67, col. 7, lines 1-9).

As per claim 103: Battersby discloses a liquid crystal display device according to claim 92, wherein a display is performed by a change in color of said liquid crystal display panel and a spectral reflection characteristic of said solar battery (col. 5, lines 16-33).

As per claim 106: Battersby discloses a liquid crystal display device according to claim 92, wherein a liquid crystal layer of said liquid crystal display panel is a mixed liquid crystal layer containing a polymer in a liquid crystal (col. 4, lines 29-41).

As per claim 107: Battersby discloses a liquid crystal display device according to claim 93, wherein a liquid crystal layer of said liquid crystal display panel is a mixed liquid crystal layer containing a polymer in a liquid crystal (col. 4, lines 29-41).

3. Claims 94, 95, 99, 102, 104, 108, 113-126 are rejected under 35 U.S.C. 103(a) as being unpatentable over Battersby in view of US 6,268,558 to Kubota.

As per claim 94: Battersby discloses a device as stated above with regards to claim 92. Battersby discloses all subject matter claimed by applicant with the exception of the limitation stated in claim 94, i.e., a printed layer having substantially same spectral reflectance as that of a power generation portion of said solar battery being provided on a non-power generation portions of a solar battery. Kubota discloses solar battery module wherein light is applied to said solar battery to generate electric power, and a printed layer/insulating color film disposed in regions other than the photoelectric conversion section (col. 6, lines 15-68). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to replace the solar battery, as taught by Battersby, with the solar battery module, as taught by Kubota, in order to reduce a color difference from the photoelectric conversion section.

As per claim 95: Battersby discloses a device as stated above with regards to claim 92. Battersby discloses all subject matter claimed by applicant with the exception of the limitation stated in claim 95, i.e., a film for changing a color of said solar battery is provided between said solar battery and said liquid crystal display panel. Kubota discloses solar battery module wherein light is applied to said solar battery to generate electric power, and a insulating color film disposed in regions other than the photoelectric conversion section (col. 6, lines 15-68).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to replace the solar battery, as taught by Battersby, with the solar battery module, as taught by Kubota, in order to reduce a color difference from the photoelectric conversion section.

As per claim 99: Battersby discloses a liquid crystal display device according to claim 94 comprising a power generation quantity adjustment region for changing a transmittance is provided at a part of a display region of a liquid crystal display panel to adjust a quantity of power generation of the solar battery (col. 5, lines 5-10 and col. 6, lines 42-67).

As per claim 102: Battersby discloses a liquid crystal display device according to claim 94 comprising a means for conducting a control to increase a transmittance of said liquid crystal display panel is provided to increase a quantity of power generation of said solar battery while said liquid crystal display panel is in non-driving display state (col. 6, lines 42-67, col. 7, lines 1-9).

As per claim 104: Battersby discloses a liquid crystal display device according to claim 95, wherein a display is performed by a change in color of said liquid crystal display panel and a spectral reflection characteristic of said solar battery (col. 5, lines 16-33).

As per claim 108: Battersby discloses a liquid crystal display device according to claim 94, wherein a liquid crystal layer of said liquid crystal display panel is a mixed liquid crystal layer containing a polymer in a liquid crystal (col. 4, lines 29-41).

As per claims 113-126, respectively: Battersby discloses a device as stated above with regards to claims 92, 93, 94 and 95, respectively. Battersby discloses all subject matter claimed by applicant with the exception of the limitation stated in claims 113-126, i.e., wherein the liquid

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crystal display panel is a liquid crystal display panel for a timepiece. Battersby discloses a liquid crystal display/solar battery assembly for a portable device. Kuboto discloses a liquid crystal display/solar battery assembly for use in a timepiece. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to place the liquid crystal display/solar battery assembly, as taught by Battersby, in a timepiece housing, as taught by Kuboto, since it too is considered a portable device.

4. Claims 96, 111, 112, 129 and 130 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Battersby and Kubota as applied to claims 92, 93, 94 and 95 above, and further in view of US Patent 6,295,108 to Kaneko.

As per claim 96: The combination of Battersby and Kubota disclose a device as stated above with regards to claims 92, 93, 94 and 95, respectively. The combination of Battersby and Kubota disclose all subject matter claimed by applicant with the exception of the limitation stated in claim 96, i.e., said film for changing a color of said solar battery is a cholesteric liquid crystal film. Kaneko discloses solar battery module wherein a film for changing a color of a solar battery is a cholesteric liquid crystal film (col. 7, lines 4-37). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to replace the solar battery assembly, as taught by the combination of Battersby and Kubota, with the solar battery assembly, as taught by Kaneko, in order to reduce a color difference from the photoelectric conversion section.

As per claim 111: The combination of Battersby and Kubota disclose a device as stated above with regards to claims 92, 93, 94 and 95, respectively. The combination Battersby and Kubota disclose all subject matter claimed by applicant with the exception of the limitation

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stated in claim 111, i.e., a liquid crystal layer of said liquid crystal display panel is a super twisted nematic liquid crystal layer, polarizing films are provided on the visual recognition side and on the opposite side thereto respectively with said liquid crystal layer interposed there between, and said polarizing film provided on the opposite side to the visual recognition side is a reflection-type polarizing film of which one polarization axis is a transmission axis and another polarization axis substantially perpendicular thereto is a reflection axis. Kaneko discloses a liquid crystal layer of said liquid crystal display panel is a super twisted nematic liquid crystal layer, polarizing films are provided on the visual recognition side and on the opposite side thereto respectively with said liquid crystal layer interposed there between, and said polarizing film provided on the opposite side to the visual recognition side is a reflection-type polarizing film of which one polarization axis is a transmission axis and another polarization axis substantially perpendicular thereto is a reflection axis (col. 5, lines 11-33). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to replace the solar battery assembly, as taught by the combination of Battersby and Kubota, with the solar battery assembly, as taught by Kaneko, in order to provide the liquid crystal display device with a more efficient viewing angle characteristic and can perform single-color display with a colorful tone and a higher contrast, as already suggested by Kaneko.

As per claim 112: The combination of Battersby and Kubota disclose a device as stated above with regards to claims 92, 93, 94 and 95, respectively. The combination of Battersby and Kubota disclose all subject matter claimed by applicant with the exception of the limitation stated in claim 112, i.e., a liquid crystal layer of said liquid crystal display panel is a super twisted nematic liquid crystal layer, polarizing films is provided on the visual recognition side

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and a cholesteric liquid film is provided on the opposite side thereto respectively with said liquid crystal interposed there between. Kaneko discloses as prior art a conventional example of a liquid crystal layer of said liquid crystal display panel is a super twisted nematic liquid crystal layer, polarizing films is provided on the visual recognition side and a cholesteric liquid film is provided on the opposite side thereto respectively with said liquid crystal interposed there between (col. 1, lines 35-45). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to replace the solar battery assembly, as taught by the combination of Battersby and Kubota, with the solar battery assembly, as taught by Kaneko, in order to provide the liquid crystal display device with a higher contrast, as already suggested by Kaneko.

As per claims 129 and 130, respectively: Battersby discloses a device as stated above with regards to claims 92-96, respectively. Battersby discloses all subject matter claimed by applicant with the exception of the limitation stated in claims 129 and 130, i.e., wherein the liquid crystal display panel is a liquid crystal display panel for a timepiece. Battersby discloses a liquid crystal display/solar battery assembly for a portable device. Kuboto discloses a liquid crystal display/solar battery assembly for use in a timepiece. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to place the liquid crystal display/solar battery assembly, as taught by Battersby, in a timepiece housing, as taught by Kuboto, since it too is considered a portable device.

5. Claim 105 is rejected under 35 U.S.C. 103(a) as being unpatentable over Battersby in view of US Patent 6,057,906 to Iwanaga et al. [hereinafter Iwanaga].

As per claim 105: Battersby discloses a device as stated above with regards to claim 92. Battersby discloses all subject matter claimed by applicant with the exception of the limitation stated in claim 105, i.e., a liquid crystal layer of said liquid crystal display panel is a mixed liquid crystal layer made by mixing a dichroic dye in a liquid crystal. Iwanaga discloses a liquid crystal layer of said liquid crystal display panel is a mixed liquid crystal layer made by mixing a dichroic dye in a liquid crystal (abstract). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to add the dichroic dye, as taught by Iwanaga, to the liquid crystal display panel, as taught by Battersby, in order to improve the contrast ratio.

6. Claims 109 and 110 are rejected under 35 U.S.C. 103(a) as being unpatentable over Battersby in view of US 6,295,108 to Kaneko.

As per claim 109: Battersby discloses a device as stated above with regards to claim 92. Battersby discloses all subject matter claimed by applicant with the exception of the limitation stated in claim 109, i.e., a liquid crystal layer of said liquid crystal display panel is a super twisted nematic liquid crystal layer, polarizing films are provided on the visual recognition side and on the opposite side thereto respectively with said liquid crystal layer interposed there between, and said polarizing film provided on the opposite side to the visual recognition side is a reflection-type polarizing film of which one polarization axis is a transmission axis and another polarization axis substantially perpendicular thereto is a reflection axis. Kaneko discloses a liquid crystal layer of said liquid crystal display panel is a super twisted nematic liquid crystal layer, polarizing films are provided on the visual recognition side and on the opposite side thereto respectively with said liquid crystal layer interposed there between, and said polarizing

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film provided on the opposite side to the visual recognition side is a reflection-type polarizing film of which one polarization axis is a transmission axis and another polarization axis substantially perpendicular thereto is a reflection axis (col. 5, lines 11-33). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to replace the solar battery assembly, as taught by Battersby, with the solar battery assembly, as taught by Kaneko, in order to provide the liquid crystal display device with a more efficient viewing angle characteristic and can perform single-color display with a colorful tone and a higher contrast, as already suggested by Kaneko.

As per claim 110: Battersby discloses a device as stated above with regards to claim 93. Battersby discloses all subject matter claimed by applicant with the exception of the limitation stated in claim 110, i.e., a liquid crystal layer of said liquid crystal display panel is a super twisted nematic liquid crystal layer, polarizing films are provided on the visual recognition side and on the opposite side thereto respectively with said liquid crystal layer interposed there between, and said polarizing film provided on the opposite side to the visual recognition side is a reflection-type polarizing film of which one polarization axis is a transmission axis and another polarization axis substantially perpendicular thereto is a reflection axis. Kaneko discloses a liquid crystal layer of said liquid crystal display panel is a super twisted nematic liquid crystal layer, polarizing films are provided on the visual recognition side and on the opposite side thereto respectively with said liquid crystal layer interposed there between, and said polarizing film provided on the opposite side to the visual recognition side is a reflection-type polarizing film of which one polarization axis is a transmission axis and another polarization axis substantially perpendicular thereto is a reflection axis (col. 5, lines 11-33). Therefore, it would

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have been obvious to a person having ordinary skill in the art at the time the invention was made to replace the solar battery assembly, as taught by Battersby, with the solar battery assembly, as taught by Kaneko, in order to provide the liquid crystal display device with a more efficient viewing angle characteristic and can perform single-color display with a colorful tone and a higher contrast, as already suggested by Kaneko.

7. Claims 127 and 128 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Battersby and Kaneko as applied to claims 92, 93, 109 and 110 above, respectively, and further in view of to Kuboto.

As per claims 127 and 128, respectively: The combination of Battersby and Kaneko disclose a device as stated above with regards to claims 92, 93, 109 and 110, respectively. The combination of Battersby and Kaneko disclose all subject matter claimed by applicant with the exception of the limitation stated in claims 127 and 128, i.e., wherein the liquid crystal display panel is a liquid crystal display panel for a timepiece. The combination of Battersby and Kaneko disclose a liquid crystal display/solar battery assembly for a portable device. Kuboto discloses a liquid crystal display/solar battery assembly for use in a timepiece. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to place the liquid crystal display/solar battery assembly, as taught by the combination of Battersby and Kaneko, in a timepiece housing, as taught by Kuboto, since it is very well considered a portable device.

Response to Arguments

8. Applicant's arguments with respect to claim Jan 3, 2006 have been considered but are moot in view of the new ground(s) of rejection.

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Conclusion

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Examiner Jeanne-Marguerite Goodwin whose telephone number is (571) 272-2104. The examiner can normally be reached on Monday-Friday (9am-6pm), alternate Fridays off. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2861.

JMG
March 6, 2006

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